

LISTING OF THE CLAIMS

The following listing, if entered, replaces all prior versions of the claims in the present application.

1-13. (Canceled)

14. (Currently Amended) A method comprising:

identifying a first network component in a first path using a first identifier stored in a heap data structure, wherein the first path is between a first node and a second node;

removing the first identifier from the heap data structure; [[and]]

identifying a second network component in a second path using a second identifier stored in the heap data structure, wherein the second identifier remains in the heap data structure subsequent to the removing the first identifier, the second path is between the first node and the second node, and the first path and the second path are disjoint;

sending a packet from the first node via the first path; and

sending a duplicate of the packet from the first node via the second path.

15. (Currently Amended) The method of claim 14, further comprising:

identifying a plurality of network components in the first path using identifiers stored in the heap data structure; and

removing the identifiers corresponding to the network components in the first path from the heap data structure.

16. (Currently Amended) The method of claim 15, further comprising:

storing the plurality of identifiers in the heap data structure, wherein each one of the identifiers represents a corresponding one of a plurality of network components.

17. (Canceled)

18. (Currently Amended) The method of claim [[17]] 14, wherein the first and second network components are nodes.
19. (Currently Amended) The method of claim [[17]] 14, wherein the first and second network components are links.
20. (Currently Amended) The method of claim [[17]] 14, further comprising:
 - removing the second identifier from the heap data structure;
 - identifying a third network component, in a third path between the first node and the second node, using a third identifier stored in the heap data structure, wherein the third identifier remains in the heap data structure subsequent to the removing the second identifier, and the first path, the second path, and the third path are disjoint.
21. (Previously Presented) The method of claim 20, further comprising:
 - sending an additional duplicate of the packet from the first node via the third path.
22. (Currently Amended) The method of claim [[17]] 14, further comprising:
 - associating a sequence number with each of the packet and the duplicate of the packet.
23. (Previously Presented) The method of claim 22, further comprising:
 - receiving both of the packet and the duplicate of the packet at the second node;
 - and
 - discarding one of the packet and the duplicate in response to the sequence number associated with each of the packet and the duplicate.
24. (Currently Amended) The method of claim [[17]] 14, wherein the identifying ones of the network elements in the first path is based on an Open Shortest Path First (OSPF) algorithm.

25. (Currently Amended) The method of claim [[17]] 14, wherein the packet is a Voice over Internet Protocol (VoIP) packet.
26. (Currently Amended) The method of claim [[17]] 14, wherein the sending the packet comprises sending the packet according to a label-switching protocol.
27. (Currently Amended) The method of claim [[17]] 14, further comprising:
storing cost and topology information, wherein
the cost and topology information is used to identify the first path.

28-37. (Canceled)

38. (Currently Amended) A computer readable medium comprising program instructions executable to:

identify a first network component, in a first path between a first node and a second node, using an identifier stored in a heap data structure;
remove the identifier corresponding to the first network component from the heap data structure; [[and]]
identify a second network component, in a second path between the first node and the second node, using a second identifier stored in the heap data structure, wherein the second identifier remains in the heap data structure
subsequent to removal of the first identifier, and the first path and the second path are disjoint;
send a packet from the first node via the first path; and
send a duplicate of the packet from the first node via the second path.

39. (Currently Amended) The computer readable medium of claim 38, wherein the program instructions are further executable to:
identify a plurality of network components in the first path using identifiers stored in the heap data structure; and
remove the identifiers corresponding to the network components in the first path from the heap data structure.

40. (Currently Amended) The computer readable medium of claim 39, wherein the program instructions are further executable to:
- store identifiers in the heap data structure, wherein each one of the identifiers represents a corresponding one of a plurality of network components.
41. (Canceled)
42. (Currently Amended) The computer readable medium of claim [[41]] 38, wherein the first and second network components are nodes.
43. (Currently Amended) The computer readable medium of claim [[41]] 38, wherein the first and second network components are links.
44. (Currently Amended) The computer readable medium of claim [[41]] 38, wherein the program instructions are further executable to:
- associate a sequence number with each of the packet and the duplicate of the packet.
45. (Currently Amended) The computer readable medium of claim [[41]] 38, wherein ones of the network elements in the first path are identified based on an Open Shortest Path First (OSPF) algorithm.
46. (Previously Presented) The computer readable medium of claim 45, wherein the packet is a Voice over Internet Protocol (VoIP) packet.
47. (Currently Amended) The computer readable medium of claim [[41]] 38, wherein the packet is sent according to a label-switching protocol.
48. (Currently Amended) The computer readable medium of claim [[41]] 38, wherein the program instructions are further executable to:
- store cost and topology information, wherein

the cost and topology information is used to identify the first path.

49-54. (Canceled)

55. (Currently Amended) A system comprising:

means for identifying a first network component in a first path using an identifier stored in a heap data structure, wherein the first path is between a first node and a second node;

means for removing the identifier corresponding to the first network component from the heap data structure; [[and]]

means for identifying a second network component in a second path using a second identifier stored in the heap data structure, wherein the second identifier remains in the heap data structure subsequent to removal of the first identifier, the second path is between the first node and the second node, and the first path and the second path are disjoint;

means for sending a packet from the first node via the first path; and

means for sending a duplicate of the packet from the first node via the second path.

56. (Currently Amended) The system of claim 55, further comprising:

means for identifying a plurality of network components in the first path using identifiers stored in the heap data structure; and

means for removing the identifiers corresponding to the network components in the first path from the heap data structure.

57. (Currently Amended) The system of claim 56, further comprising:

means for identifying a plurality of network components in the first path using identifiers stored in the heap data structure; and

means for removing the identifiers corresponding to the network components in the first path from the heap data structure.

58. (Currently Amended) The system of claim 55, further comprising:
means for storing identifiers in the heap data structure, wherein each one of the
identifiers represents a corresponding one of a plurality of network
components.

59. (Canceled)

60. (Currently Amended) The system of claim [[59]] 55, wherein the first and second
network components are nodes.

61. (Currently Amended) The system of claim [[59]] 55, wherein the first and second
network components are links.

62. (Currently Amended) The system of claim [[59]] 55, further comprising:
means for associating a sequence number with each of the packet and the
duplicate of the packet.

63. (Currently Amended) The system of claim [[59]] 55, wherein ones of the network
elements in the first path are identified based on an Open Shortest Path First (OSPF)
algorithm.

64. (Currently Amended) The system of claim [[59]] 55, wherein the packet is a Voice
over Internet Protocol (VoIP) packet.

65. (Currently Amended) The system of claim [[59]] 55, wherein the packet is sent
according to a label-switching protocol.

66. (Currently Amended) The system of claim [[59]] 55, further comprising:
means for storing cost and topology information, wherein the cost and topology
information is used to identify the first path.

67-73. (Canceled)

74. (Currently Amended) A system comprising:

- a first node;
- a second node;
- a first path between the first node and the second node; and
- a second path between the first node and the second node, wherein the first node is configured to:

- identify a first network components in the first path using a first identifier stored in a heap data structure,
- remove the first identifier from the heap data structure, [[and]]
- identify a second network component in the second path using a second identifier stored in the heap data structure, wherein the second identifier remains in the heap data structure subsequent to removal of the first identifier, and the first path and the second path are disjoint,
- send a packet via the first path, and
- send a duplicate of the packet via the second path.

75. (Currently Amended) The system of claim 74, wherein the first node is configured to:

- identify a plurality of network components in the first path using identifiers stored in the heap data structure; and
- remove the identifiers corresponding to the network components in the first path from the heap data structure.

76. (Currently Amended) The system of claim 75, wherein the first node is configured to:

- store identifiers in the heap data structure, each one of the identifiers representing a corresponding one of a plurality of network components.

77. (Canceled)

78. (Currently Amended) The system of claim [[77]] 74, wherein the first and second network components are nodes.

79. (Currently Amended) The system of claim [[77]] 74, wherein the first and second network components are links.
80. (Currently Amended) The system of claim [[77]] 74, wherein the first node is further configured to:
- associate a sequence number with each of the packet and the duplicate of the packet.
81. (Currently Amended) The system of claim [[77]] 74, wherein the first node identifies the ones of the network elements in the first path based on an Open Shortest Path First (OSPF) algorithm.
82. (Previously Presented) The system of claim 81, wherein the packet is a Voice over Internet Protocol (VoIP) packet.
83. (Currently Amended) The system of claim [[77]] 74, wherein the first node is sends the packet according to a label-switching protocol.
- 84-90. (Canceled)